

A new species of *Intesius* (Crustacea, Decapoda, Goneplacidae) from the deep water of French Polynesia

Peter J. F. DAVIE

Queensland Museum, P.O. Box 3300
South Brisbane, Queensland (Australia)
p.davie@mailbox.uq.edu.au

Davie P. J. F. 1998. — A new species of *Intesius* (Crustacea, Decapoda, Goneplacidae) from the deep water of French Polynesia. *Zoosystema* 20 (2) : 221-227.

KEY WORDS

Crustacea,
Decapoda,
Brachyura,
Intesius,
deep water,
Pacific Ocean,
new species.

ABSTRACT

A new species of the previously monotypic genus *Intesius*, *I. crosnieri*, is described from 500 m depth in French Polynesia. New records of *I. pilosus* Guinot *et* Richer de Forges, 1981 are also recorded from off north Queensland, Australia. The two species can be easily separated by the shape of the carapace and anterolateral teeth. Figures are provided of both species.

RÉSUMÉ

Une nouvelle espèce du genre *Intesius* (Crustacea, Decapoda, Goneplacidae) des eaux profondes de Polynésie française. *Intesius crosnieri*, une nouvelle espèce du genre *Intesius*, considéré jusqu'à présent comme monotypique, est décrite de Polynésie française par 500 m de profondeur. *Intesius pilosus* Guinot *et* Richer de Forges, 1981 est également signalée du nord du Queensland, en Australie. Les deux espèces se distinguent facilement par la forme de la carapace et les dents antérolatérales.

MOTS CLÉS

Crustacea,
Decapoda,
Brachyura,
Intesius,
eaux profondes,
océan Pacifique,
nouvelle espèce.

INTRODUCTION

The specimen, for which the new species is described, was sent to me for study by Joseph Poupin of the French Service Mixte de Contrôle Biologique (SMCB). It had already been examined by Dr Alain Crosnier, and recognized as probably new to science.

Intesius Guinot *et* Richer de Forges, 1981, has until now been considered monotypic, including only *I. pilosus* Guinot *et* Richer de Forges, 1981. It was placed into the Goneplacidae but the relationships within the family have not been further clarified... "*La position taxonomique d'Intesius pilosus n.sp. sera précisée ultérieurement*" (Guinot & Richer de Forges 1981b: 256).

ABBREVIATIONS

| | |
|--------|--|
| mm | millimetres; |
| G1, G2 | first and second male gonopods; |
| MNHN | Muséum national d'Histoire naturelle, Paris; |
| QM | Queensland Museum, Brisbane. |

The abbreviated terminology used for carapace regions is that used by Serène (1984) following Dana (1852).

Measurements given in the text are of carapace breadth (c.b.) followed by length.

SYSTEMATICS

Family GONEPLACIDAE MacLeay, 1838

Intesius crosnieri n.sp.

(Figs 1A, 2A, 3, 4)

MATERIAL EXAMINED. — **French Polynesia.** Îles sous le vent, Maïao, strn 173, 17°38.4'S - 150°38.8'W, trapped, 500 m, 1996, SMCB (J. Poupin): holotype, ♂ 46.4 × 39.8 mm (MNHN-B25374).

ETYMOLOGY. — The species is dedicated to Alain Crosnier in recognition of his enormous generosity in allowing, and assisting me to study not just this new crab but the large fascinating collections of deep water xanthid species from French Polynesia and New Caledonia that I have previously reported on (Davie 1993; 1997).

DISTRIBUTION. — Only known from the type locality. Bathymetric range: 500 m.

DESCRIPTION

Carapace

ca. 1.2 times broader than long; moderately convex anteriorly, slightly convex from side to side across the posterobranchials. Regions moderately well defined, separated by broad furrows, except 1F/2F, 2L/3L. 5L/6L are not distinctly separated. Posterior margin costate, with a raised finely granular rim; posterolateral margins more or less straight, converging posteriorly. Anterolateral margins regularly convex, granular, with four teeth behind the exorbital angle; first and fourth teeth small, first well-separated from orbit, indistinct, little more than a raised granule; second and third teeth subequal, acute, with sharp granules on the margins; fourth teeth situated well back and in the form of a small spine; greatest carapace width across third teeth. Front *ca.* 0.28 times carapace width; squate-cut, bilobed, moderately projecting, narrow band of sharp granules behind leading edge; separated from orbit by a narrow, smooth, pre-orbital sulcus. Carapace surface covered with small granules diminishing in size towards the inter-regional furrows; thickly clothed with fine simple setae which do not obscure the surface detail. Upper orbital border concave, granular; a small spine separating deep median and lateral fissures. Lower orbital border inner angle formed by large triangular, bluntly pointed tooth; laterally with a second smaller blunt granular lobe; with V-shaped notch laterally. Antennal flagellum entering orbit, fine, long, reaching as far as second anterolateral tooth. Basal antennal segment widely separated from front, rectangular, unarmed. Basal antennular segment finely granular, with shaggy coat of short setae; palp folding obliquely.

Third maxilliped

Merus slightly swollen on medial surface, microscopically granular only; about as wide as long and about half length of ischium; antero-external angle slightly produced, rounded. Ischium elongate, sub-rectangular *ca.* 1.95 times longer than wide.

Chelipeds

Unequal; large and robust; minor cheliped of

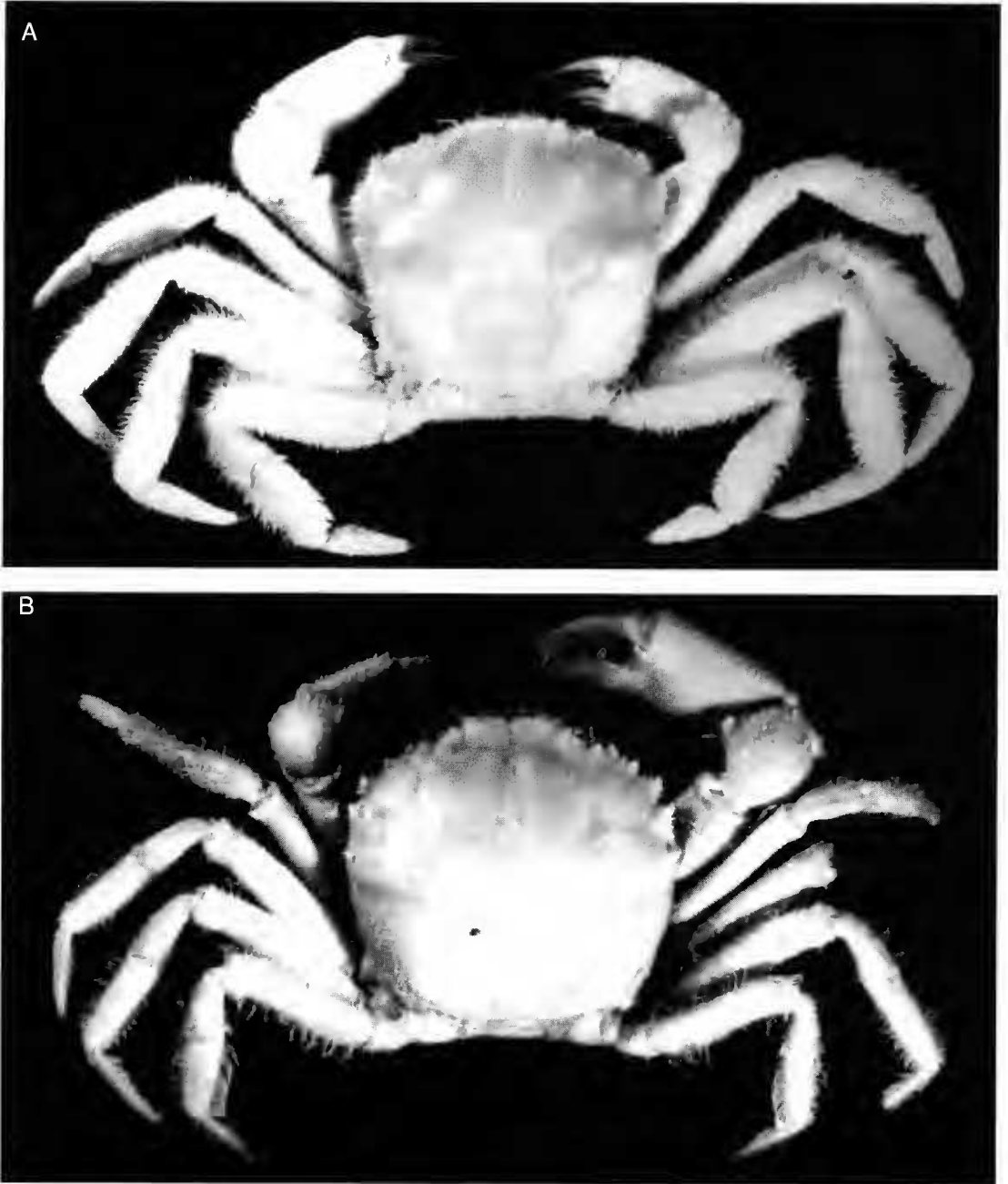


FIG. 1. — **A**, *Intesius crosnieri* n.sp., holotype ♂ 46.4 × 39.8 mm (MNH-B25374), French Polynesia, Îles sous le vent, Maïao, 17°38.4'S - 150°38.8'W, trapped, 500 m, 1996; **B**, *Intesius pilosus* Guinot et Richer de Forges, 1981, ♀ 40.8 × 36.9 mm (QMW17026), northern Queensland, off Tully Heads, 17°59.6'S - 147°01.8'E, trawled 220 m, 12.I.1986.

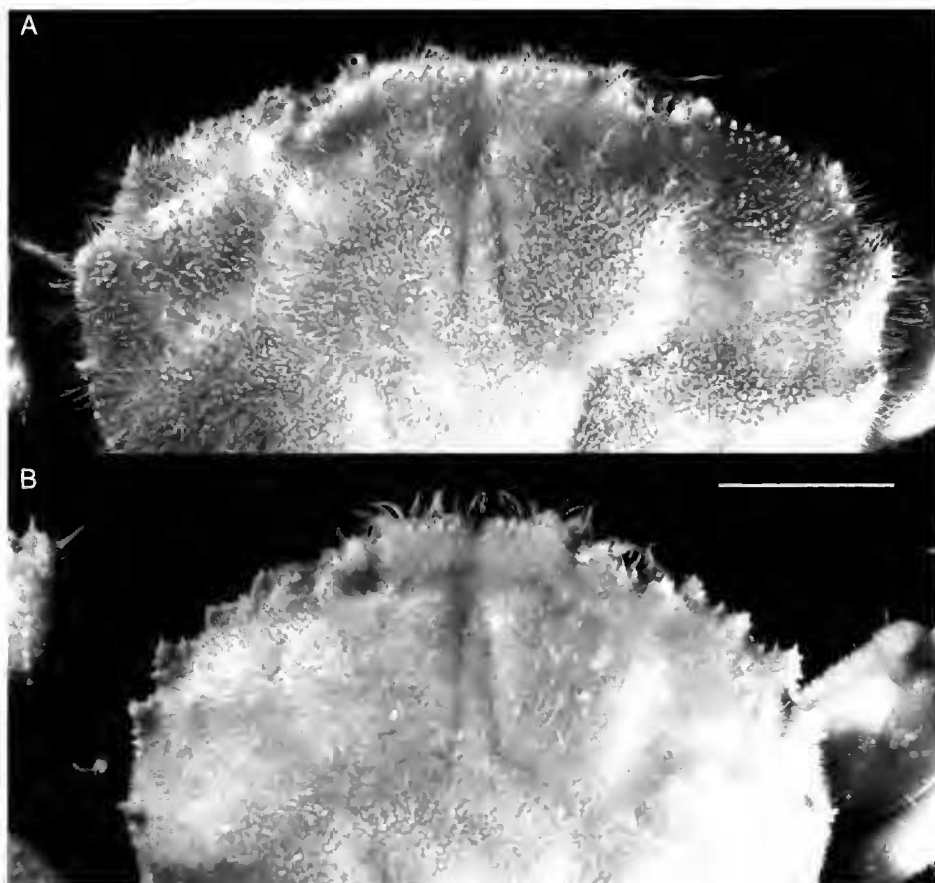


FIG. 2. — Magnified view of anterior carapace; A, *Intesius crosnieri* n.sp., holotype ♂ (MNHN-B25374); B, *Intesius pilosus* Guinot et Richer de Forges, 1981, ♀ (QMW17026). Scale bar: 1 cm.

similar form but with longer more slender fingers. Merus trihedral, short and broad, posterior border with sharp spinules, with slightly larger spine on edge of subdistal shoulder, distally rounded and unarmed. Carpus with strong spine at inner angle, ventrally unarmed; upper and outer surfaces with small sharp granules. Outer surface of palm of large chela covered in sharp granules dorsally and proximally, becoming microscopically granular ventro-distally; with only minute setae between the granules dorsally; minor chela with sharp granules evenly and entirely covering outer surface. Fixed finger with ventral ridge, and second longitudinal groove below cutting margin; length cutting edge *ca.*

0.38 times length propodus. Ventral border of chela slightly concave at base of fixed finger. Dorsal surface of dactylus microscopically granular; dactylus broad, bearing three longitudinal grooves on outer face, running most of length. Fingers pointed, recurved; cutting margins of both fingers with low molariform teeth. Fingers entirely black except for base of dactyl, colour not extending backwards onto palm.

Walking legs

Medium length; compressed; relatively stout; second pair the longest *ca.* 1.7 times maximum carapace width. Merus of third leg *ca.* 4.2 times longer than wide; carpus *ca.* 2.7 times longer



FIG. 3. — Ventral view of *Intesius crosnieri* n.sp., holotype ♂ 46.4 × 39.8 mm (MNHN-B25374), French Polynesia, Îles sous le vent, Maïao, 17°38.4'S - 150°38.8'W, trapped. 500 m, 1996.

than wide; propodus *ca.* 2.65 times longer than wide; dactylus *ca.* 1.35 times length of propodus. Dactyli thick, straight, compressed; terminating in an acute chitinous tip. All leg segments unarmed, more or less minutely granular on upper margins; marginally fringed with setae, becoming thicker and having a more extensive coverage distally.

Male abdomen

Third to fifth segments fused; third segment the widest. Segments 3-5 tapering. Segment 6, 1.8 times wider than long. Telson slightly longer than, and moderately sunken into, segment 6; 1.36 times wider than long; evenly rounded.

Gonopods

G1 short and stout, generally tapering, a pre-distal shoulder bearing a patch of short stout bristles. G2 similar in length, filament occupying distal third (see Fig. 4B-D).

Sternum

Relatively broad, finely granular and hirsute; broad shallow depression in front of telson; suture between segments 3 and 4 incised laterally, becoming shallow and indistinct medially.

REMARKS

Intesius pilosus Guinot *et* Richer de Forges, 1981, was described from a single holotype specimen. Subsequently Davie & Short (1989) recorded a single female from 183 m depth off southern Queensland. Further specimens from Queensland have been since found, and have provided valuable comparative material for understanding the limits of variation in that species, and helped to clearly distinguish the present new species.

The carapace provides the most important characters useful in separating the two species. *I. pilosus* is subcircular in shape, whereas *I. crosnieri* has a more quadrate appearance caused by the more convex anterolateral margins. The greatest carapace width is between the third anterolateral teeth, whereas in *I. pilosus* the fourth anterolateral teeth are either as prominent, or more prominent, than the third. The anterolateral teeth of *I. pilosus* are generally more projecting and acute than in *I. crosnieri*, and the accessory spinules on their margins are also more prominent and acute. In particular, the first anterolateral tooth in *I. crosnieri* is almost obsolete, but is a clearly differentiated, strong, spinulose tooth in *I. pilosus*.

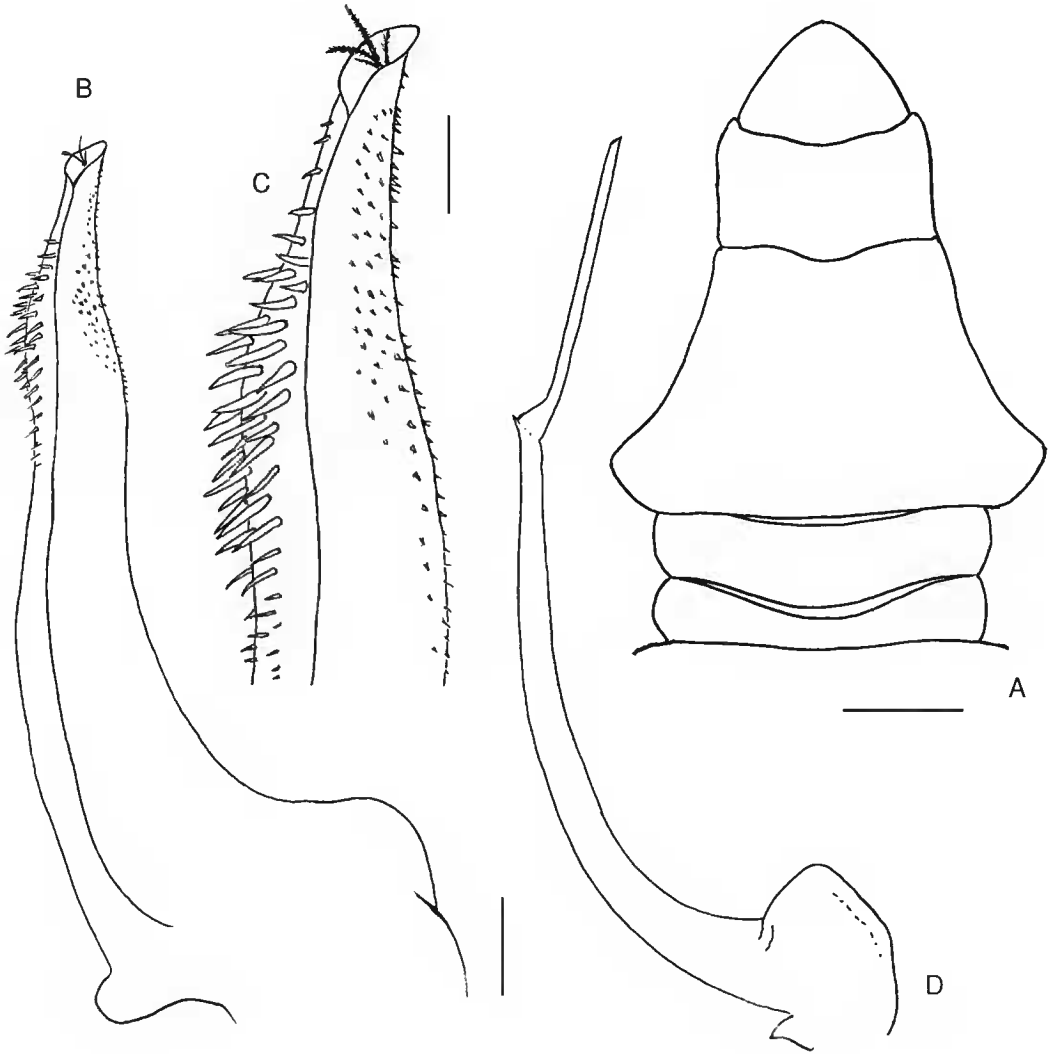


FIG. 4. — *Intesius crosnieri* n.sp., holotype ♂ 46.4 × 39.8 mm (MNHN-B25374); A, abdomen; B, C, gonopod 1; D, G2. Scale bars: A, 5 mm; B, D, 1 mm; C, 0.5 mm.

The gonopods of the two species are very close, but *I. crosnieri* has a slightly broader more flared tip, which has several setae projecting from it, and these are absent in *I. pilosus*.

Intesius pilosus has been recorded from depths of 183-400 m, whereas *I. crosnieri* is from 500 m depth. It remains to be seen whether or not this indicates different bathymetric depth preferences, which would be of significance if they are found to occur sympatrically in the future.

Intesius pilosus

Guinot *et* Richer de Forges, 1981
(Figs 1B, 2B)

Intesius pilosus Guinot *et* Richer de Forges, 1981a: pl. 7, 1, 1a, 1b; 1981b: 253-6, figs 6D, 11A-G. — Davie & Short 1989: 184-5.

MATERIAL EXAMINED. — **Northern Queensland.** Off Tully Heads, RV *Soela* (CSIRO), 17°59.2'S - 147°03.1'E, trawled 260 m, 13.1.1986: ♀ 26.2 ×

23.8 mm, ♂ 35.0 × 32.0 mm (QM-W17024). — 17°59.6'S - 147°05.5'E, trawled 260 m, 19.I.1986: 2 ♀♀ 27.5 × 25.8 mm, 27.0 × 25.1 mm (QM-W17025). — 17°59.6'S - 147°01.8'E, trawled 220 m, 12.I.1986: ♀ 40.8 × 36.9 mm (QM-W17026). — 18°00.1'S - 147°01.3'E, trawled 228 m, 09.I.1986: ♂ 39.0 × 36.2 mm (QM-W17027).

DISTRIBUTION. — Loyalty Islands (type locality), and Coral Sea off eastern Queensland to 27°S latitude. Bathymetric range: 183-400 m.

REMARKS

The present series of specimens are very consis-

tent in morphology, and agree closely with the description and figures of the holotype. There is variation in the prominence of the last anterolateral tooth, such that it may be equal in prominence to the third or slightly more projecting.

Acknowledgements

I am most grateful to Joseph Poupin for asking me to undertake this study; and to Bertrand Richer de Forges and Enrique Macpherson for inviting me to contribute to this special volume honouring Alain Crosnier.

REFERENCES

- Dana J. D. 1852. — Crustacea. *United States Exploring Expedition during years 1838, 1839, 1840, 1841, 1842 under command of Charles Wilkes, U.S.N.* 13: 1-685. Atlas (1855): 1-27, pls 1-96.
- Davie P. J. F. 1993. — Deep water xanthid crabs from French Polynesia (Crustacea, Decapoda, Xanthoidea). *Bulletin du Muséum national d'Histoire naturelle*, Paris, série 4, A 14 (2) : 501-561.
- 1997. — Crustacea Decapoda: Deep water Xanthoidea from the South-Western Pacific and the Western Indian Ocean, in Crosnier A. (ed.), *Résultats des Campagnes MUSORSTOM*, Volume 18, *Mémoires du Muséum national d'Histoire naturelle* 176 : 337-387.
- Davie P. J. F. & Short J. 1989. — Deep water Brachyura (Crustacea: Decapoda) from southern Queensland, Australia with descriptions of four new species. *Memoirs of Queensland Museum* 27 (2): 157-187.
- Guinot D. & Richer de Forges B. 1981a. — Crabes de profondeur, nouveaux ou rares, de l'Indo-Pacifique (Crustacea, Decapoda, Brachyura) (première partie). *Bulletin du Muséum national d'Histoire naturelle*, Paris, série 4, A (1980) 2 (4) : 1113-1153.
- 1981b. — Crabes de profondeur, nouveaux ou rares, de l'Indo-Pacifique (Crustacea, Decapoda, Brachyura) (deuxième partie). *Bulletin du Muséum national d'Histoire naturelle*, Paris, série 4, A 3 (1) : 227-260.
- Serène R. 1984. — Crustacés Décapodes Brachyours de l'océan Indien occidental et de la mer Rouge, Xanthoidea: Xanthidae et Trapeziidae. Avec un addendum par Crosnier A. : Carpillidae et Menippidae. *Faune Tropicale*, ORSTOM, 24: 1-400, pls 1-48.